

Dilger, Alexander

**Working Paper**

## The market is fairer than Bebchuk's scheme

Wirtschaftswissenschaftliche Diskussionspapiere, No. 09/2000

**Provided in Cooperation with:**

University of Greifswald, Faculty of Law and Economics

*Suggested Citation:* Dilger, Alexander (2000) : The market is fairer than Bebchuk's scheme, Wirtschaftswissenschaftliche Diskussionspapiere, No. 09/2000, Universität Greifswald, Rechts- und Staatswissenschaftliche Fakultät, Greifswald

This Version is available at:

<https://hdl.handle.net/10419/48914>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

**Ernst-Moritz-Arndt-Universität Greifswald**  
Rechts- und Staatswissenschaftliche Fakultät  
**Wirtschaftswissenschaftliche Diskussionspapiere**

## **The Market is Fairer than Bebchuk's Scheme**

**Alexander Dilger**

Diskussionspapier 9/00

August 2000

ISSN 1437-6989

Dr. Alexander Dilger  
Ernst-Moritz-Arndt-Universität Greifswald  
Rechts- und Staatswissenschaftliche Fakultät  
- Wirtschaftswissenschaften -  
Lehrstuhl für Betriebswirtschaftslehre, insbesondere Personal- und Organisationsökonomie  
Postfach  
D-17487 Greifswald

Tel.: 03834/86-2474

Fax: 03834/86-2470

e-mail: [dilger@uni-greifswald.de](mailto:dilger@uni-greifswald.de)

Homepage: <http://www.rsf.uni-greifswald.de/~dilger>

## Table of Contents

Title page	i
Table of Contents	ii
Zusammenfassung	ii
Abstract	1
Symbols	2
1. Introduction	3
2. Bebchuk's Proposal	4
2.1 The Distribution of a Given Amount	4
2.2 The Case of Uncertainty	5
2.3 The Distribution of and by Options	6
2.4 The Fairness of the Distribution	8
2.5 Additional Features	10
3. Reasons for Complaining	12
3.1 Losses in the Insolvency	12
3.2 Getting Too Much	12
3.3 Insufficient Information	13
3.4 Bias of Failures in Estimation	16
3.5 Lack of Money	17
3.6 Complaints about the Reorganization Plan and Additional Features	19
4. Why the Market is Fairer than Bebchuk's Scheme	21
5. Conclusion	24
References	24

## Zusammenfassung

Bebchuks Vorschlag zur Insolvenzrechtsreform wird beschrieben und analysiert, insbesondere seine Behauptung, dass der Gebrauch von Optionen fair sei und die Beteiligten dabei keinerlei Grund zur Klage hätten. Es wird gezeigt, dass es doch einige Gründe gibt, sich zu beklagen. Vor allem hat der Vorschlag einen systematischen Bias gegen nachrangige Gläubiger und vorherigen Anteilseigner, weil sie für unvermeidbare Fehler beim Einschätzen des Firmenwertes bezahlen müssen und ihnen die finanziellen Mittel zur Optionsausübung fehlen könnten. Eine Marktlösung wird vorgestellt, die fairer ist als Bebchuks Vorschlag gemäß seinen eigenen Standards.

# The Market is Fairer than Bebchuk's Scheme<sup>1</sup>

Alexander Dilger<sup>2</sup>

## Abstract

Bebchuk's proposal for bankruptcy reform is described and analyzed, in particular his claim that using options is fair and that the participants of such a bankruptcy procedure have no basis to complain. It will be shown that some reasons for complaining remain. Above all, the proposal has a systematic bias against junior creditors and former shareholders because they have to pay for unavoidable mistakes in estimating the company's value and may lack the financial resources to exercise their options. A market solution will be specified that is fairer than Bebchuk's scheme according to his own standards.

---

<sup>1</sup>Many thanks to Karsten de Ponte, Lutz Kruschwitz, Sandra Leissner, and Elmar Wolfstetter. Financial support by the Deutsche Forschungsgemeinschaft (DFG) and my parents is gratefully acknowledged. Some of this paper's ideas are part of my dissertation, "Auktionen in Insolvenzen: Ein Vorschlag zur optimalen Gestaltung von Insolvenzverfahren", Logos Verlag, Berlin 1998.

<sup>2</sup> Dr. Alexander Dilger, Ernst-Moritz-Arndt-Universitt Greifswald, Rechts- und Staatswissenschaftliche Fakultt, Loefflerstr. 70, D-17489 Greifswald, Germany. Phone: +49 (3834) 86-2474, Fax: +49 (3834) 86-2470, e-mail: dilger@uni-greifswald.de

# The Market is Fairer than Bebchuk's Scheme

## Symbols

$b_{ij}$	portion of options exercised by participant $j$ in class $i$ ( $\neq 1$ )
$D_i$	total nominal value of claims or units of equity owned by class $i$
$d_{ij}$	nominal value of claims or units of equity owned by participant $j$ in class $i$
$e_{ij}$	payments to (or in the case of $e_{ij} < 0$ from) participant $j$ in class $i$
$i$	index for classes of participants
$j$	index for participants
$k$	running index for participants
$K_i$	number of participants in class $i$
$l, m$	running indices for classes of participants
$n$	number of classes of creditors
$V$	value of a new share in the firm
$Z$	total new shares in the firm
$z_{ij}$	number of new shares that participant $j$ in class $i$ gets

# 1 Introduction

Twelve years ago Lucian Arye Bebchuk made a famous proposal for bankruptcy reform.<sup>1</sup> Its main idea is that the senior creditors of an insolvent firm get the firm, whereas junior creditors and the old owners get options to buy it by paying the (senior) claims. There have been many positive reviews of this proposal and other proposals for bankruptcy reform used Bebchuk's one as their foundation.<sup>2</sup>

No major criticism has been voiced, just some doubts as to the practical applicability of such a complicated proposal.<sup>3</sup> In addition, the minor “unpalatable feature that junior claimants may receive cash even when senior creditors have not been fully paid” was judged to be a problem.<sup>4</sup> Nobody questioned Bebchuk's claims that “the participants will never end up with less than the value to which they are entitled” and that “no participant will have a justifiable basis for complaining about the method's outcome”,<sup>5</sup> if his proposal is implemented. In this article it will be shown that reasons for complaining remain. The market solution in which all shares are sold at one market clearing price is fairer than the scheme proposed by Bebchuk according to his own standards.

In the next section Bebchuk's proposal will be outlined. It will be explained why and in which sense there should be no reason for complaining about the proposal's outcomes. The third section is an examination of remaining reasons for complaining. At least one of them seems to be rather strong. Junior creditors are at a disadvantage since they would make mistakes in estimating the value of the insolvent firm. It is true that they are making these mistakes by themselves, but they cannot avoid them. They are forced to make mistakes. Therefore, in section 4 a market solution will

---

<sup>1</sup>Bebchuk (1988). For the newest version of his proposal see Bebchuk (2000).

<sup>2</sup>See Aghion/Hart/Moore (1992), Aghion/Hart/Moore (1995) and Hart/La Porta Drago/Lopez-de-Silanes/Moore (1997). See Dilger (1999) for a critique of the proposal by Aghion/Hart/Moore, which is adopted by Bebchuk (2000) in its main parts.

<sup>3</sup>Aghion/Hart/Moore (1992).

<sup>4</sup>Hart/La Porta Drago/Lopez-de-Silanes/Moore (1997), p. 10. They propose as a remedy against this feature the additional use of an inside auction.

Bebchuk (2000) answers to some of the objections to his proposal. He announces for 1999 a paper “to address all the questions that have been raised about the proposal”, p. 2, but this has not been released as yet.

<sup>5</sup>Bebchuk (1988), p. 777.

be specified that gives less reasons for complaining and is therefore fairer than Bebchuk's scheme. Section 5 concludes.

## 2 Bebchuk's Proposal

The main problem that Bebchuk's proposal is meant to solve is the fair distribution of the value of an insolvent firm between the creditors and the former owners, in short the participants. If there were no different classes of participants and therefore no order of seniority between classes, then the distribution would be easy. Each participant could get shares in the firm according to the portion of claims he previously had on the insolvent firm. Since there are different classes the claims of senior creditors have to be fulfilled before junior creditors are entitled to get anything. In order to maintain absolute priority, the junior creditors also have to be paid off before the former owners can get the rest.

### 2.1 The Distribution of a Given Amount

Observing the rule of absolute priority is not difficult as long as the value of the insolvent firm is known. Consider the case of liquidation. Every asset of the firm is sold piecemeal or the whole company is sold as one unit for cash. Afterwards the amount of cash is known and can be distributed without violating absolute priority. All senior classes have to be paid off completely before a junior class gets anything. If anything remains after all debts have been paid to the creditors, this belongs to the old owners of the firm. Inside the classes the money is distributed in proportion to the former claims of the participants.

Using the symbols defined at the beginning of this article, a given amount  $Z \cdot V$  of money would be distributed to the individual participants according to the following scheme. A most senior creditor  $j$  gets

$$e_{1j} = \min \left( Z \cdot \frac{d_{1j}}{D_1}, \frac{d_{1j}}{V} \right).$$

A creditor  $j$  of any junior class  $i$  ( $1 < i < n + 1$ ) receives

$$e_{ij} = \min \left( \max \left( 0, \left[ Z - \sum_{l=1}^{i-1} \frac{D_l}{V} \right] \cdot \frac{d_{ij}}{D_i} \right), \frac{d_{ij}}{V} \right).$$

A former shareholder  $j$  is given

$$e_{(n+1)j} = \max \left( 0, \left[ Z - \sum_{l=1}^n \frac{D_l}{V} \right] \cdot \frac{d_{(n+1)j}}{D_{n+1}} \right).$$

## 2.2 The Case of Uncertainty

Bebchuk argues that a liquidation of the insolvent firm may not be optimal for the participants.<sup>6</sup> A piecemeal liquidation is suboptimal, if the company has a higher value as a going concern than the sum of its separate assets. Selling the whole company is not a good idea as long as there are not enough potential buyers who are sufficiently informed and have the necessary money. Without liquidation there has to be a reorganization by the participants themselves. But the reorganization procedure according to Chapter 11 of the U.S. Bankruptcy Code violates the principle of absolute priority and opens the way for inefficient rent-seeking behavior. Therefore, Bebchuk proposes to allocate shares and options in the firm without neglecting the given seniority of claims.

As long as the value of the firm is obvious to all, it is easy to allocate its shares. The allocation of shares simply follows the allocation of a given amount of money. Difficulties arise as soon as the value of the firm is uncertain. If there is one binding estimate of the value, failures in the estimate threaten to put some classes at a disadvantage. The senior creditors are getting too few shares if the estimate is too high. If it is too low the senior creditors are getting too many shares. Even if the estimate is correct in some cases, all classes will complain, because the correctness is not obvious. Senior creditors always want low estimates, high estimates are in favor with junior creditors and former shareholders. The problem of fair distribution comes down to the problem of finding the right estimate.

Bebchuk's brilliant solution to this problem is to let each participant make his own estimate. If there is one binding estimate for all, all participants will protest that it is too high or too low, but in any case wrong and unfair. If, instead, everybody has his own estimate, nobody can object to it. Instead of complaining that he gets too few shares because his estimate is too high, a senior creditor could simply lower his own estimate. Likewise, a junior

---

<sup>6</sup>Bebchuk (1988), p. 776.



creditor or former shareholder cannot protest that he gets too few shares, because he could raise his estimate and get more.

### 2.3 The Distribution of and by Options

How is it possible that every participant can use his own estimate of the company's value, even if different participants have widely differing estimates? Bebchuk's idea is to use options. To begin with, the most senior creditors, the participants of class 1, get all the shares in the new firm, which is the insolvent firm without any remaining debts. All other creditors and the shareholders of the old, insolvent firm get no shares, but options to buy shares by paying off the more senior creditors.

The participants of class 2, the creditors with the second highest seniority, get the option to buy shares from the most senior creditors at a price corresponding to the original claims of the most senior creditors. Thereby the class 2 does not have to act uniformly, but each individual creditor gets his own options and can decide to exercise them as he likes. As an example, the sum  $D_1$  of the claims of the most senior creditors may be \$ 2,000, the sum  $D_2$  of the claims of class 2 \$ 5,000 and there are 10,000 new shares. Each of the most senior creditors provisionally gets 5 shares for every dollar the insolvent firm owed him. But he has to hand over a share whenever he gets 20 cents for it from one of the junior creditors. The participants of class 2 get the option to buy 2 shares at a price of 20 cents each for every dollar the insolvent firm owed them.

The same holds for all classes of participants. Every participant gets options in proportion to his claims. He can buy shares at a price as high as the corresponding share of all more senior claims has been. He loses shares to junior participants if they pay off his claims. If the old owners exercise their options, then they can keep the shares for sure, because nobody is junior to them and they are entitled to any residual after all debts have been paid.

There will be the following distribution of money and shares in the new company after everyone has exercised his options.<sup>7</sup> The symbols are used as

---

<sup>7</sup>The presentation of Bebchuk (1988) is not complete, especially for the unlikely cases of junior classes exercising some options whereas more senior creditors do not exercise theirs. Bebchuk explains in a footnote, p. 788, why this should not happen, at least as long as there is a market for options: options which are not exercised have no value, thus the junior classes should have bought them from the more senior creditors at a low price

defined at the beginning of this article. A most senior creditor  $j$  gets in cash

$$e_{1j} = d_{1j} \cdot \left( 1 - \prod_{l=2}^{n+1} \left[ 1 - \frac{\sum_{k=1}^{K_l} b_{lk} d_{lk}}{D_l} \right] \right)$$

and shares

$$z_{1j} = Z \cdot \frac{d_{1j}}{D_1} \cdot \prod_{l=2}^{n+1} \left( 1 - \frac{\sum_{k=1}^{K_l} b_{lk} d_{lk}}{D_l} \right).$$

A creditor  $j$  of class  $i$ ,  $1 < i < n + 1$ , gets or pays in money

$$e_{ij} = d_{ij} - \left( d_{ij} + b_{ij} \cdot \frac{d_{ij}}{D_i} \cdot \sum_{m=1}^{i-1} D_m \right) \cdot \prod_{l=i+1}^{n+1} \left( 1 - \frac{\sum_{k=1}^{K_l} b_{lk} d_{lk}}{D_l} \right)$$

and receives the following number of shares

$$z_{ij} = Z \cdot b_{ij} \cdot \frac{d_{ij}}{D_i} \cdot \prod_{l=i+1}^{n+1} \left( 1 - \frac{\sum_{k=1}^{K_l} b_{lk} d_{lk}}{D_l} \right).$$

A former shareholder  $j$  has to pay an amount of

$$e_{(n+1)j} = -b_{(n+1)j} \cdot \frac{d_{(n+1)j}}{D_{n+1}} \cdot \sum_{m=1}^n D_m,$$

and the number of shares he gets for this is

$$z_{(n+1)j} = Z \cdot b_{(n+1)j} \cdot \frac{d_{(n+1)j}}{D_{n+1}}.$$

The participants have the opportunity to trade the shares and, in particular, the options. Thus participants who estimate the value of the company

---

instead of exercising their own options by using more money. Nevertheless, every possible case should be defined. This is done here in a consistent and incentive compatible way.

lower than others can sell their options. If someone does not want to exercise his option, but sells it in the market, he earns something instead of receiving nothing. If someone thinks his option has some value but he can sell it at a higher price in the market, he earns more instead of receiving less. Also participants who lack the necessary money to exercise their options can profit from the options' market, if they can sell their options which otherwise would have been useless to them. Finally, an option market is an important source of information for the participants.

## 2.4 The Fairness of the Distribution

Independently of the trading opportunity, the outcome of Bebchuk's mechanism will be fair according to him: "The proposed method addresses the possibility of different subjective estimates by enabling each participant to decide individually, based on his *own* estimate of the reorganized company's value, whether to exercise his rights. Consequently, each participant will get no less, and may indeed get more, than the value to which he believes he is entitled based on his *own* estimate of the reorganization value."<sup>8</sup> Therefore, "no participant has any basis for complaining about the method's outcome."<sup>9</sup>

This will be shown for the different classes of participants in more detail. To begin with, the participants of class 1, the most senior creditors cannot complain, no matter what happens. Possibly some junior class exercises all its options and the most senior creditors get their claims paid off instead of shares. "In this case, the senior creditors surely cannot complain about the outcome, as their claims will be paid in full."<sup>10</sup> Another possibility is that no participant exercises his option. Then the most senior creditors get all shares of the new firm. "Again, they will have no basis for complaining, for they will be getting the whole reorganization pie: there is nothing more that could be given to them."<sup>11</sup> Finally, a mixed result is possible, the most senior creditors ending up with some money and some shares. But for each part the arguments given above are true. As far as these creditors get money, their claims are paid off. Their shares contain the remaining value of the company.

---

<sup>8</sup>Bebchuk (1988), p. 794, italics in the original.

<sup>9</sup>Bebchuk (1988), p. 790.

<sup>10</sup>Bebchuk (1988), pp. 790 f.

<sup>11</sup>Bebchuk (1988), p. 791.

The creditors of all other classes have no reason to complain, either, according to Bebchuk.<sup>12</sup> If their options are redeemed because participants junior to them exercised their options, then their claims are fulfilled. Otherwise they have the choice to exercise their options or not. “The value of these options is by definition not lower than the value to which the creditors are entitled – for the junior creditors are entitled to no more than the value that is left, if any, after the senior creditors are paid in full.”<sup>13</sup> If they exercise their options, they have to pay the claims of the creditors senior to them and get shares in the new firm for this. As a result they get what they are entitled to according to the rule of absolute priority. If they do not exercise their options, they get nothing. But this is correct as long as they estimate the value of the firm to be lower than the claims of the more senior creditors. If they estimate this value to be higher, then they should exercise their options.

Finally, the old shareholders have no reason to complain. Their “options will make accessible to them the very value to which they are entitled – which is all that is left, if anything, after the claims of the senior and junior creditors are paid in full.”<sup>14</sup> If they do not exercise their options, then they estimate by themselves the value of the firm to be lower than its former debts.<sup>15</sup>

Bebchuk stresses that the fairness of his proposed method does not depend on the existence of efficient markets where the options and shares can be traded.<sup>16</sup> Accordingly, such markets have not been used in the arguments above why none of the participants has reason to object to the method’s outcome. Trading opens new opportunities, fairness should exist without it. This is important to Bebchuk because, if there is any advantage of his proposal to others, then it is the fact that fairness exists independently of the functioning of markets. If efficient markets exist, the allocation of shares according to absolute priority is no problem because these markets generate one common estimate of the firm’s value.

---

<sup>12</sup>Bebchuk (1988), pp. 791 f.

<sup>13</sup>Bebchuk (1988), p. 791.

<sup>14</sup>Bebchuk (1988), p. 792.

<sup>15</sup>This is to be expected because otherwise there should not have been a bankruptcy at all.

<sup>16</sup>Bebchuk (1988), pp. 789 f. See also 3.3 below.

## 2.5 Additional Features

Bebchuk's proposal has some more features than just the options. First of all, the "proposed reorganization regime will include, as any reorganization regime must, a preliminary process of determining the size and ranking of participants' claims; this process may be straightforward at times, but it also may be complex and time-consuming at other times. Once the participants' claims are identified, however, the process of division will proceed smoothly and quickly."<sup>17</sup>

Second, Bebhuk believes that "a reorganization plan will be necessary to fix some limited elements of the reorganized company's features."<sup>18</sup> Bebhuk mentions the capital structure of the new firm as such an element. He thinks it does not matter who designs the reorganization plan, which nevertheless needs to be confirmed by a supervising court. "Given the way in which the proposed method operates, the choice of capital structure cannot be used to divert value from one class of participants to another. Therefore, in choosing the capital structure, the party charged with designing the reorganization plan will aim solely at maximizing the value of the reorganized company."<sup>19</sup>

Third, the old, now insolvent firm may have had some contracts which had favorable terms for the firm. As an example, there could have been a long term loan at a low interest rate, whereas the market interest rate has risen in the meantime. If the contract of this loan is canceled and the creditor is give shares or options like all other creditors, then this creditor could profit from the insolvency at the cost of all other participants. It would be better if the new company could maintain such contracts. According to Bebhuk, this problem for every insolvency procedure can be solved by using the reorganization plan. Any "designers of the plan presumably will choose to reinstate only those contracts whose reinstatement will maximize the pie available to the rest of the participants. The parties to the reinstated contracts will have claims that are not impaired and they therefore will not participate in the division of rights."<sup>20</sup>

Fourth, there are secured claims. They have a special priority concerning specific assets. One can deal with them in several different ways. The secured

---

<sup>17</sup>Bebchuk (1988), p. 798.

<sup>18</sup>Bebchuk (1988), p. 798.

<sup>19</sup>Bebchuk (1988), p. 798.

<sup>20</sup>Bebchuk (1988), p. 802.

creditor may have the right to take the securing asset out of the firm and to utilize it by himself or he may just have the right to get the estimated value of the asset in cash.<sup>21</sup> “Whichever arrangement we wish to apply to secured claims, the proposed method of division will be consistent with it. The arrangement will govern the identification of fully secured claims and their treatment under the reorganization plan.”<sup>22</sup>

Finally, Bebchuk sees the problem that some participants could end up with a large portion of shares. This is a problem “because shares in a controlling block are worth more than minority shares.”<sup>23</sup> A concentration of shares would redistribute value from the minority shareholders to the blockholders. Bebchuk recommends a proposal of Roe (1986) to deal with this problem, which he sees to be present in any reorganization: “If the exercise of rights provides someone with a controlling block of the reorganized company’s equity, then the holder of this controlling block should be required to dispose of his controlling position – by selling enough shares to go below a specified control threshold – within a specified period of time. Under such a rule, those who exercise rights will be able to count on receiving shares that, at least after a specified period of time, will not be minority shares.”<sup>24</sup>

### 3 Reasons for Complaining

There are several reasons why participants could complain about the outcome of Bebchuk’s mechanism. Complaints about the lost money caused by the insolvency, which are probably heard most often in practice, are not a valid argument against the proposal. In addition, two other rather weak arguments will be examined. First, someone may object that others (or he himself) get too much instead of too little, which would be a form of breaking absolute priority. Second, participants could object that they lack the necessary information to make a meaningful estimate of the company’s value. Whereas this is not really convincing, a much stronger critique of the proposed mechanism is close at hand. Insufficient information and failures in estimation

---

<sup>21</sup>See also the interesting proposal of Bebchuk/Fried (1996) to limit the priority of secured creditors.

<sup>22</sup>Bebchuk (1988), p. 803.

<sup>23</sup>Bebchuk (1988), p. 803.

<sup>24</sup>Bebchuk (1988), pp. 803 f.

have different consequences for the participants. Junior participants are systematically at a disadvantage. Another strong point, mentioned by Bebchuk but without a convincing counterargument, is the lack of money which could prevent participants from exercising their options. This is another bias of the proposed mechanism against the junior participants. Finally, some problems concerning the proposed reorganization plan and other additional features of Bebchuk's proposal will be shown.

### 3.1 Losses in the Insolvency

There are protests against the high losses in every insolvency. Quite regularly one can read critical comments about the high number of insolvencies and the high losses of money and jobs in newspapers and other popular publications. These protests would continue if Bebchuk's insolvency procedure were introduced. Nevertheless, this is not a serious argument against his proposal.<sup>25</sup> These protests do not differentiate between the losses that caused an insolvency and those that were caused by an insolvency procedure. An efficient procedure should minimize the losses which are there anyway and emerged quite independently of the procedure.

### 3.2 Getting Too Much

In 2.4 it has been shown that everybody gets what he is entitled to according to his own estimate of the company's value. Thus, nobody can complain that he gets too little. Nevertheless, someone may perceive that he or someone else gets too much. As Bebchuk writes, "each participant will get no less, *and may indeed get more*, than the value to which he believes he is entitled".<sup>26</sup> On the one hand, it could be seen as a great advantage of the proposed procedure that the participants can get more than what they are entitled to. On the other hand, one could regard it as a special form of violating the principle of absolute priority. Some junior participants may receive nothing

---

<sup>25</sup>The same holds for protests against wrong evaluations of shares and options on the market. The participants "can complain about the market ('oh, the market is not what it is supposed to be') but not about the method's way of dividing" shares and options (Bebchuk (1988), p. 791).

<sup>26</sup>Bebchuk (1988), p. 794, italics added.

whereas senior ones receive more than they themselves believe to be entitled to.

The point here is that everyone uses his own estimate. If one estimate is declared to be the objective one then, indeed, there can be violations of absolute priority because some participants may have used other estimates. However, senior participants can only get too much in their own or some one else's eyes as long as at least one junior participant does not think so but exercises options because he estimates the company's value higher or does not exercise them because he estimates the value lower than the senior participants or an external observer. Nobody can complain that he himself does not get enough, whatever his own estimate of the value may be. More should not be expected. If somebody is envious because he thinks someone else is getting too much by the wrong estimation and foolish behavior of a third person, he still cannot object that he himself gets too little, whereas envy alone should not be an argument. Indeed, if somebody is so noble that he objects to taking more than he thinks he is entitled to, he could give the amount he received above his own evaluation to other participants<sup>27</sup> or the poor.

### **3.3 Insufficient Information**

Participants could object that they lack the necessary information to make reasonable estimates of the company's value. If someone has an estimate, he can guarantee himself what he is entitled to according to this estimate. But what happens if someone is not able to come up with an estimate? Without an estimate, even a merely subjective one, it is not possible for junior participants to make decisions about exercising their options.

The counterargument to these objections is that it is always necessary to make decisions under incomplete information. There is no difference in this regard between the case of insolvency and any other situation of (economic) life. Even if someone has no information at all, he may find himself in a situation where it is necessary to make decisions. Doing nothing would be a decision, too, although a bad one in many cases. Mere guessing or flipping a coin are possible decision procedures in the absence of information.

---

<sup>27</sup>This could be a problem, if these other participants are equally noble, because thanks to Bebchuk's mechanism no participant believes in getting too little. Such people could beg each other in vain to take money!



The absolute amounts of information and lacking information are not reasons for complaining. So Bebchuk is right that the relative differences between different insolvency procedures is decisive: “Under the proposed method, as well as under the existing process of division, participants must make decisions on the basis of whatever information they have concerning the reorganized company’s value. Therefore, it is necessary to examine whether, in comparison to the existing process, the proposed method might either increase the amount of information that participants need or decrease the amount of information that they possess.”<sup>28</sup> One qualification is necessary, though. The comparison has not only to include the proposed and the existing insolvency procedure but also other possible candidates for insolvency reform.

Bebchuk argues that the participants need less information under his procedure than under the existing one: “under the proposed method, participants will not even need to make a judgment, as they must under the existing process, concerning their best estimate of the reorganized company’s value. They will only have to make the much more limited judgment whether the reorganized company’s value exceeds the estimate that is implicit in the market price of their rights (that is, whether the value of their rights exceeds the rights’ market price).”<sup>29</sup> They also have more information under his procedure than under the existing one: “there is no reason to assume that participants will have less information under the proposed method than under the existing process. Indeed, the proposed method provides an important additional source of information – the market pricing of rights.”<sup>30</sup> Because the participants need less and have more information than at present, if Bebchuk’s proposal is realized, the participants then cannot protest about insufficient information.

This conclusion would be fine, but its premises are questionable. To start with, it is not correct that the participants “will only have to make the much more limited judgment whether the reorganized company’s value exceeds the estimate that is implicit in the market price of their rights”.<sup>31</sup> If a participant thinks the market price is higher than the value of the firm, he has indeed nothing more to do than to sell his rights, his options or shares to the market.

---

<sup>28</sup>Bebchuk (1988), p. 795.

<sup>29</sup>Bebchuk (1988), p. 795.

<sup>30</sup>Bebchuk (1988), p. 795.

<sup>31</sup>Bebchuk (1988), p. 795.

In this case it does not matter what the correct value is. But this case is quite rare, an underrating by the market has to be expected to justify the whole proposal: “the primary rationale for the existence of the reorganization alternative to liquidation is the concern that the market often undervalues such companies; if the market could be relied on to price such companies perfectly, there would be no reason to expect that a reorganization would ever provide the participants with a greater value than they would get from a going-concern sale effected through a chapter 7 liquidation proceeding.”<sup>32</sup> However, if the market price is too low, it does not help the participants to decide whether to exercise their options. They need an estimate of the company’s value. At least they have to know whether the value of a share is higher or lower than the exercising price.

This shows that the participants normally do not need less information under Bebchuk’s proposal, when compared with the present state. In a way they need more, because every single participant has to make his own decisions and therefore his own estimate. Under the present procedure whole classes can decide and estimate, whereas individual participants do not have this problem (and can complain *ex post* about wrong estimates).

It is also questionable whether the participants have more information under Bebchuk’s proposal than now. As has been shown, the market is not a reliable source of information in this context. Conversely, there may be less information under Bebchuk’s proposal as he himself acknowledges: “the proposed method may still reduce the amount of information that participants will have if it substantially decreases the extent to which participants take advantage of the available sources of information. Such a decrease may arguably take place because of collective action problems: under the proposed method, participants will act individually rather than collectively, and they may have less incentive or ability to look for information.”<sup>33</sup> Bebchuk sees the possibility of working together as a remedy against this problem: “the proposed method will not prevent participants from acquiring information as a class rather than individually when there are some advantages in doing so: in such cases, the committee representing the class will likely engage in information acquisition (say, by hiring an investment banker to do the job) and

---

<sup>32</sup>Bebchuk (1988), p. 789.

<sup>33</sup>Bebchuk (1988), p. 795 f.

then disseminate its conclusions to individual class members.”<sup>34</sup> However, the collective action problem does not consist in a prohibition of working together. The problem is how to organize the collective action if nobody has sufficient individual incentives to do so. The present reorganization procedure organizes the classes and their representatives by law. It is much more difficult to do this individually, especially if there are many individuals.

In conclusion, there are at least some doubts whether Bebchuk’s proposal really is at an advantage concerning information relative to the existing reorganization law. If other possible procedures are considered, these doubts grow. Imagine the shares being distributed according to the estimate of the company’s value by an investment bank. Then a specialist could use efficient means to gather information, there would not be a parallel search for the same information, the participants could take it easy, but if they have some favorable information, they could hand it over to the investment bank. Auctions could also be a more efficient way to use information. Nevertheless, more fundamental objections to the lack of information are not justified. Information is always scarce, its availability is a matter of degree.

### **3.4 Bias of Failures in Estimation**

As has been shown in 2.4, Bebchuk’s proposal is fair in the sense that, if some participant has an estimate of the company’s value, he can get what he is entitled to according to his own estimate. It has also been argued in 3.3 that the necessity to make estimates is no objection to the proposal. Information is seldom complete. It is often necessary to make estimates or even guess. Thereby one can overestimate as well as underestimate. But as long as there is no bias and systematic failure, these mistakes should cancel each other out so that one is right on the average. Therefore, one gets the expected value of what one is entitled to.

The decisive critique of Bebchuk’s proposal is that it does not even give the junior participants the expected value of what they are entitled to. Since the participants have to estimate the value of the firm, they will surely not pick out the correct value every time – otherwise they would not be estimating but determining the value. The crucial point is that their mistakes do not cancel each other out on average. Every time there is a difference between

---

<sup>34</sup>Bebchuk (1988), p. 796.

the estimated and the real value, they can only lose, never win. At best a difference does not matter.

On the one hand, if a junior participant overestimates the company's value, he can lose by deciding to exercise his option although it would have been better not to do so. This is the case if he estimates a share's value to be above the exercising price of the option whereas the true value is below. In other cases the overestimation has no costs but also no gains. These other cases are those in which the estimated and the real value are both below or both above the exercising price.

On the other hand, if a junior participant underestimates the company's value, he can lose by deciding not to exercise his option although he should have done so. This is the case if he estimates a share's value to be under the exercising price whereas the true value is higher. There are also other cases in which underestimating is free of cost but there are no gains, either. These cases are again those in which the estimated and the real value are both below or both above the exercising price.

This means a junior participant loses every time a divergence of the estimated from the real value matters for his decision to exercise his options.<sup>35</sup> The winners are the senior participants who get either more shares or more money than they are entitled to by the failures in estimation. This bias against junior participants is a clear violation of absolute priority. It is no excuse that the junior participants are making the estimates which hurt them by themselves because they are forced to estimate and to thereby make mistakes. As long as they are not able to determine the true value of the firm exactly they cannot expect to get the expected value of their entitlement. This constitutes a sound justification for complaining about the fairness of Bebchuk's proposal.

### **3.5 Lack of Money**

Another important objection to Bebchuk's proposal could be the absence of sufficient financial means. If junior participants want but lack the necessary money to exercise their options, they cannot get the value to which they are entitled according to their own estimates. This is an argument Bebchuk sees

---

<sup>35</sup>An overestimation of the shares' value on the market for options could benefit the junior participants. However, such an overestimation is rare as has been argued in 3.3.

himself: A “possible objection to the method arises from the fact that the method will require some participants to invest in the enterprise to capture the value to which they are entitled. Participants in an insolvent company, so the argument might go, may reasonably be reluctant to make such an investment or may lack the necessary financial resources.”<sup>36</sup>

Bebchuk has three counterarguments against this: “although the need to invest funds might pose some problems to the effectiveness of the proposed method, these problems appear to be quite limited. Most participants will not need to invest any amount in order to capture the value to which they believe they are entitled, because their rights will be either redeemed or valued sufficiently by the market. Furthermore, those who will need to invest will have no basis for complaining as long as the amount at stake is small relative to their wealth. Finally, as for those whose rights will be neither redeemed nor sufficiently valued by the market and whose wealth is not sufficiently large relative to the amount at stake, any problem resulting from the need to invest will be mitigated by their ability to borrow.”<sup>37</sup> It will be shown that all three counterarguments are not convincing and reasons to complain remain.

First, it is true that some participants will not have to invest money because their claims will be redeemed or because they can sell their options in the market. However, these are only the more senior participants who would have to pay low exercising prices anyway. One of the classes of participants near the real value of the company has to put in an amount of money as high as the claims of all more senior classes. Not all claims can be redeemed, someone has to do the redeeming. The market for options is no help because it normally underestimates the company’s value.<sup>38</sup>

Second, Bebchuk may be right that “the amounts that participants need to invest to exercise their rights are small relative to their wealth, which I suspect is the case for most participants in reorganizations of publicly traded corporations”.<sup>39</sup> But most is not all, and the few participants for whom this is different are the ones that matter. In many insolvencies there are some creditors who gave substantial credits and are at risk of becoming insolvent themselves simply because they lose their claims. Whereas they hardly have

---

<sup>36</sup>Bebchuk (1988), p. 796.

<sup>37</sup>Bebchuk (1988), p. 797.

<sup>38</sup>See 3.3.

<sup>39</sup>Bebchuk (1988), p. 797.

the wealth to bear their own losses, they clearly lack the money to pay off the probably much larger claims of the creditors senior to them.

Third, the creditors who do not possess the money to exercise their claims should be able to borrow it, according to Bebchuk. “In a well-functioning capital market, the junior creditor’s borrowing power will be augmented by his ability to use as collateral the very” shares he wants to buy.<sup>40</sup> However, the markets cannot be expected to function well, otherwise the whole proposal would be unnecessary.<sup>41</sup> Even if there were well-functioning capital markets, only small sums could be borrowed by using the shares as collateral because these shares are a quite risky investment, and the participant would have to take the risk. Thus, some participants with large claims are not able to exercise their options at all. Others may be able to do so by using all of their own money and lending some more, but they have to pay the costs of lending as well as the opportunity costs of other uses of their wealth. They even have to take all the large risks which are not only inherent in the company but also follow from the estimation process.

### **3.6 Complaints about the Reorganization Plan and Additional Features**

There can be complaints about the reorganization plan, too. Some participants may want something to be different from the arrangements in the plan. Bebchuk thinks it does not matter who makes the plan, his proposal guarantees that everybody has the same goal of maximizing the company’s value.<sup>42</sup> This seems to be rather naive. Not only do many participants have special interests concerning the arrangements besides maximizing value, but many other participants have no interests at all, not even in maximizing value. For example, banks may have special interests in the financial structure because they want to lend to the firm or like to give loans rather than to hold shares.<sup>43</sup> Many other participants have no interest in maximizing value because they cannot gain by it. The participants of the most junior classes may be certain to get nothing anyway, therefore they have no incentive to invest any effort

---

<sup>40</sup>Bebchuk (1988), p. 797.

<sup>41</sup>See 3.3.

<sup>42</sup>Bebchuk (1988), p. 798.

<sup>43</sup>Other interested participants are those whose contracts could be reinstated. See below.

in maximizing the company's value. The most senior classes may be sure to get all their claims repaid. Only a few classes in between which stand to gain from maximizing value are interested in it. However, laws or a judge cannot fix these classes in advance.

A simple solution to this problem would be to forego a reorganization plan. This plan is not needed in advance. The shareholders can make most arrangements by themselves. They are also interested in maximizing the value they own.

Some problems remain. The reinstating of contracts favorable to the firm will lead to some complaints. Bebchuk holds that "parties to the reinstated contracts will have claims that are not impaired".<sup>44</sup> Legally this may be correct, economically it is not. The partner of their contracts has been insolvent in the meantime, its whole structure changed and a new insolvency with less value to distribute is at least possible. Nevertheless, perhaps they have no reason to object as long as the new firm fulfills all the duties from the old contracts. Even if they have such a reason for objection, this does not need to be an argument against Bebchuk's proposal. It is not necessary that nobody at all has any reason to complain. Even justified complaints are no argument against any procedure as long as they are possible against all procedures. The relative merits of one insolvency procedure compared to its alternatives are decisive, not absolute standards.

Finally, the proposed treatment of claims' concentration shall be considered. There are at least three problems. First, Bebchuk infers a loss of value for the minority shareholders from the rising value of shares in a controlling block.<sup>45</sup> This would only be correct, if the company's value were fixed, as is the case in all his examples. But the company's value could depend on the distribution of shares and rise with some concentration, if the existence of larger shareholders helps to monitor the managers of the firm and improves their performance.<sup>46</sup> Second, the holder of a large block of shares may be at a disadvantage, if he is forced to sell many shares in a short time on an underrating market. A large creditor may have no fault that he ends up with many shares. He has a reason to protest, if he is not allowed to realize the full value of his shares. Third, there may be only one or a few potential

---

<sup>44</sup>Bebchuk (1988), p. 802.

<sup>45</sup>Bebchuk (1988), p. 803.

<sup>46</sup>See Demsetz/Lehn (1985), Grossman/Hart (1988), Shleifer/Vishney (1988) and Barclay/Holderness (1991).

buyers of many shares in the market. They are responsible for buying a controlling block, but the question is whether they should be prevented from doing so. Perhaps the firm's value is maximized by selling it to one such investor. Quantitative restrictions in the market for options and shares do not improve its performance, either.

## 4 Why the Market is Fairer than Bebchuk's Scheme

In the following it will be shown why and how the market is fairer than the scheme proposed by Bebchuk. It is not claimed that a market solution is perfectly fair and no reasons for complaining remain. However, it will be shown that a well-designed market solution dominates Bebchuk's scheme in regard to fairness considerations. There are less reasons for complaining about the market than about Bebchuk's proposal, whereas there is no case in which somebody can complain about the market where he cannot also object to Bebchuk's scheme.

The market solution that dominates Bebchuk's scheme is as follows: The shares of the new debtfree company are sold in a multi-unit auction. Everyone can submit bids, specifying the number of shares he wants at any price. Then, all shares are sold at the one price that clears the market. Outside bidders with bids as high as or higher than this price have to pay the price in cash. Former participants have to pay the price in cash, too, but they can deduct from it the money they are entitled to by the distribution of the auction's revenue because the price of all shares, the revenue of the auction, is distributed to the former participants according to the rule of absolute priority.<sup>47</sup>

Why is this market procedure fairer than Bebchuk's scheme? First of all, every participant can guarantee himself the same result as by using options without paying a higher price. If a participant submits a bid as high as the exercising price of the next higher class of participants,<sup>48</sup> then, in the auction he pays at most the exercising price of the options of his class and gets shares, or he receives the money the old company owed him. This means the market

---

<sup>47</sup>For this rule see 2.1.

<sup>48</sup>One of the former shareholders can submit a bid as high as possible.



procedure can do everything Bebchuk's scheme is supposed to do. It is fair according to Bebchuk's standards. Everyone can guarantee himself what he believes to be entitled to. If a participant believes that the company has a higher value than the claims of all creditors senior to himself, he can submit a bid to get his entitlement which is either shares in the firm by paying off the senior creditors or the fulfillment of his claims in cash. This is exactly what Bebchuk considers to be fair and what he proposed the options for.<sup>49</sup>

Moreover, using the auction is even fairer than Bebchuk's scheme. No participant has to pay more in the auction compared to exercising the options, but some may get their shares for less. This is an improvement because it has been shown in section 3 that Bebchuk's scheme has a bias against junior participants. Therefore, it is an improvement that the shares are sometimes cheaper for the junior participants without violating the rights of senior participants. That the rights of the more senior participants are not violated follows simply from the fact that they can guarantee themselves what they think to be entitled to in the same way that all other participants can do this. Nevertheless, shares can be cheaper in the auction than the exercise price of options because not all more senior creditors need to bid as high as this price. If they estimate the firm's value to be lower or do not want to take the risk, they may bid lower to the benefit of the junior participants, who have to pay a lower price to get shares. The junior participants do not have to take all the risk of failures in estimation. They also do not have to exercise an option or submit a bid to get anything because they always get their share of the auction's revenue.<sup>50</sup> The fairness of the auction is higher than that of Bebchuk's scheme, even though it may not be perfect.

An example may help to see the point made here. Consider the example from 2.3. The sum  $D_1$  of the claims of the most senior creditors is \$ 2,000, the sum  $D_2$  of the claims of class 2 is \$ 5,000 and there are 10,000 new shares. A participant of class 2 can guarantee himself the same or a better result in the auction as under Bebchuk's proposal if he bids 70 cents for each share, the number of shares he bids for being two times as high the amount of dollars the insolvent firm owed him.<sup>51</sup> If the market price of the share is below 20

---

<sup>49</sup>Compare 2.4.

<sup>50</sup>According to Bebchuk's proposal participants have to take the risk of exercising their options to get anything, unless more junior participants exercise their options and pay them off. See section 2.

<sup>51</sup>If he decided not to exercise his option under Bebchuk's proposal, he could submit

cents, he pays this price to get a share. If the market price is between 20 cents and 70 cents, he gets each share for a net price of 20 cents. Should the market price be over 70 cents, this participant of class 2 gets no shares but a dollar for every dollar he had a claim for. If one of the most senior creditors wants to guarantee himself the same result as under Bebchuk's scheme, he has to bid 20 cents for each share, bidding for a number of shares five times as high as the amount of dollars the insolvent firm owed him. Certainly, no participant is obliged to simulate the option process by his bidding. The participants can do better by using their estimates of a share's value.<sup>52</sup>

What about the problem that the market often undervalues the firm, which was the starting point of Bebchuk's proposal?<sup>53</sup> This undervaluation may still exist but it gives the participants no reason to complain under the specified auction rule. The participants cannot object, at least no more than under Bebchuk's scheme,<sup>54</sup> because each of them can submit his own bid according to his own evaluation and thereby guarantee himself everything he believes to be entitled to. Therefore, the perceived underestimation of the firm's value by the market is due only to other estimates by other participants. Each single participant cannot complain but wins through the opportunity to buy shares at a low price.

It is not really surprising that the market is fairer than Bebchuk's scheme. The main idea for using options was that everyone can use his own estimate of the firm's value and has therefore no reason to complain.<sup>55</sup> However, the market mechanism proposed here allows everyone to use his own estimate, too, and has some additional advantages, e.g. the uniform market price.

The market is an ambiguous entity. The fairness of the market depends on its organization. If the firm is sold as a whole in an auction, single

---

no bid in the auction and would get no less and sometimes more than under Bebchuk's proposal.

<sup>52</sup>Thereby they should be careful of the winner's curse.

<sup>53</sup>For Bebchuk (1988), p. 789, "the primary rationale for the existence of the reorganization alternative to liquidation is the concern that the market often undervalues such companies". See also 3.3.

<sup>54</sup>Some of the reasons for complaining given in section 3 still remain, especially the possibility of lacking money (see 3.5) to exercise the options or, in this case, to bid for shares. Even these problems are reduced because the market price may be lower than the exercising price, so that less money is needed to get shares, or higher, so that the creditors receive more money without buying shares.

<sup>55</sup>See section 2.

participants may be unable to influence the price and have to take what they get. Therefore, they could complain. If, instead, shares of the firm are sold as proposed in this paper, single participants may still lack the power to change the price, but they can decide whether they like money or shares better at any given price. Thereby they have less reason to complain than by using the options as Bebchuk proposes.

## 5 Conclusion

There are several good reasons for objecting to the outcome of Bebchuk's proposed insolvency procedure. The most important one in regard to fairness is that junior participants do not get the expected value of what they are entitled to.<sup>56</sup> They are forced to estimate the company's value, but they can only lose when there is a discrepancy between the estimated and the real value. Winners of this violation of absolute priority are the more senior participants. Senior participants also profit from restricted financial resources of the junior participants. Junior participants can lose what they are entitled to if they lack the money needed to exercise their options.

These violations of absolute priority are specific to Bebchuk's proposal. Other possible insolvency procedures – like a reorganization according to Chapter 11, a distribution of shares following a central estimation of the company's value by a judge or an investment bank or selling the firm as a whole by an auction – do not have these problems. They certainly have problems of their own, but it was not intended to compare the qualities of these different procedures in this paper. Instead, it was supposed to be demonstrated that Bebchuk's proposal should not be included in such a comparison because, in any case, it is fairer to sell the firm's shares in the market by using an auction.

## References

- Aghion, Philippe/Hart, Oliver/Moore, John (1992): "The Economics of Bankruptcy Reform", *Journal of Law, Economics and Organization* 8, pp. 523 – 546.

---

<sup>56</sup>See 3.4.

- Aghion, Philippe/Hart, Oliver/Moore, John (1995): “Insolvency Reform in the UK: A Revised Proposal”, *Insolvency Law and Practice* 11, pp. 65 – 74.
- Barclay, Michael/Holderness, Clifford (1991): “Negotiated Block Trades and Corporate Control”, *Journal of Finance* 46, pp. 861 – 878.
- Bebchuk, Lucian Arye (1988): “A New Approach to Corporate Reorganizations”, *Harvard Law Review* 101, pp. 775 – 804.
- Bebchuk, Lucian Arye (2000): “Using Options to Divide Value in Corporate Bankruptcy”, NBER Working Paper 7614, Cambridge (MA).
- Bebchuk, Lucian Arye/Fried, Jesse M. (1996): “The Uneasy Case for the Priority of Secured Claims in Bankruptcy”, *Yale Law Journal* 105, pp. 857 – 934.
- Demsetz, Harold/Lehn, Kenneth (1985): “The Structure of Corporate Ownership: Causes and Consequences”, *Journal of Political Economy* 93, pp. 1155 – 1177.
- Dilger, Alexander (1999): “A Critique of the Bankruptcy Proposal by Aghion, Hart and Moore”, *Insolvency Law and Practice* 15, pp. 155 – 158.
- Grossman, Sanford/Hart, Oliver (1988): “One Share – One Vote and the Market for Corporate Control”, *Journal of Financial Economics* 20, pp. 175 – 202.
- Hart, Oliver/La Porta Drago, Rafael/Lopez-de-Silanes, Florencio/Moore, John (1997): “A New Bankruptcy Procedure That Uses Multiple Auctions”, *European Economic Review* 41, pp. 461 – 473.
- Roe, Mark J. (1983): “Bankruptcy and Debt: A New Model for Corporate Reorganization”, *Columbia Law Review* 83, pp. 527 – 602.
- Shleifer, Andrei/Vishny, Robert W. (1988): “Value Maximization and the Acquisition Process”, *Journal of Economic Perspectives* 2, No. 1, pp. 7 – 20.

**Ernst-Moritz-Arndt-Universität Greifswald**  
Rechts- und Staatswissenschaftliche Fakultät  
**Wirtschaftswissenschaftliche Diskussionspapiere**

**2000 bislang erschienen:**

- 1/00 Florian Buchner/Jürgen Wasem: "Versteilerung der alters- und geschlechts-spezifischen Ausgabenprofile von Krankenversicherern"
- 2/00 Lucas Bretschger: "Konvergenz der europäischen Regionen"
- 3/00 Armin Rohde/Ole Jansen: "EU-Ostereiterung: Ist ein schneller Beitritt zur Europäischen Währungsunion für Estland sinnvoll?"
- 4/00 Lembo Tanning: "Schätzkriterien des Außenhandels zwischen der Europäischen Währungsunion und mittel- und osteuropäischen Ländern"
- 5/00 Frank Hettich/Carsten Schmidt: "Deutschland, ein Steuermärchen?"
- 6/00 Cornelia Kerim-Sade/Alexander Crispin/Jürgen Wasem: "An External Control of Validity of the German EuroQol-5D Questionnaire"
- 7/00 Lucas Bretschger/Frank Hettich: "Globalisation, Capital Mobility and Tax Competition: Theory and Evidence for OECD Countries"
- 8/00 Frank Hettich: "The Implications of International Cooperation for Economic Growth, Environmental Quality and Welfare"

Siehe auch unter: <http://www.rsf.uni-greifswald.de/bwl/paper.html>